



6302.0 - Average Weekly Earnings, Australia, Nov 2014

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Summary

Key Figures

KEY FIGURES

The following table contains the key Average Weekly Earnings estimates for the November 2014 reference period.

The Australian Bureau of Statistics' Average Weekly Earnings survey is designed to measure the level of average earnings in Australia at a point in time. Movements in average weekly earnings can be affected by changes in both the level of earnings per employee and in the composition of the labour force. Factors which can contribute to compositional change include variations in the proportion of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries.

Table 1: Average Weekly Earnings, Key Figures, Australia, November 2014

	November 2014 \$	Nov 2013 to Nov 2014 % change
Trend(a)		
Full-time adult average weekly ordinary time earnings	1 476.30	2.7
Full-time adult average weekly total earnings	1 539.40	2.7
All employees average weekly total earnings	1 128.90	1.3
Original		
Full-time adult average weekly ordinary time earnings	1 477.00	2.8
Full-time adult average weekly total earnings	1 542.40	2.8
All employees average weekly total earnings	1 128.70	1.3

(a) For further information regarding Trend estimates, please refer to paragraphs 60 to 66 of Explanatory Notes.

TREND ESTIMATES

In the twelve months to November 2014, Trend series Full-Time Adult Average Weekly Ordinary Time Earnings increased 2.7% to \$1,476.30.

The Full-Time Adult Average Weekly Total Earnings in November 2014 were \$1,539.40, a rise of 2.7% from the same time last year.

To access the time series spreadsheets related to the measures presented above, please refer to the following link or click on the downloads tab at the top of the page.

In this Issue

NOTES

FORTHCOMING ISSUES

ISSUE

May 2015

November 2015

Release Date

13 August 2015

25 February 2016

SUMMARY COMMENTARY

CHANGES IN THIS ISSUE

SEASONALLY ADJUSTED ESTIMATES

In 2012, as part of the transition from a quarterly to a biannual frequency, the ABS conducted an assessment of seasonality in the biannual AWE series. At the time, it was determined that moving to a biannual frequency eliminated seasonality for most AWE series and for these series the seasonally adjusted estimate was exactly equal to the original estimate.

A recent review into the seasonality of biannual AWE series has reassessed which series are displaying seasonality. Seasonal factors are now applied to additional series while other series are no longer displaying seasonality. For these series the seasonally adjusted estimate will now equal the original estimate. These changes are applied to the entire published series (i.e. commencing with May 2012). Relevant series are annotated in the time series spreadsheets available from the Downloads tab of this issue.

For further details on seasonally adjusted estimates in AWE, please refer to paragraphs 56 to 59 in the Explanatory Notes.

PRIVATISATION OF MEDIBANK PRIVATE LIMITED

Medibank Private Limited was privatised on 25 November 2014. For the purposes of ABS statistics this change from public sector to private sector is effective from the December quarter 2014. For Average Weekly Earnings, this means the change is reflected in the November 2014 estimates. Any impact from the privatisation on the measurement of change between Average Weekly Earnings statistics for the May and November 2014 issues, at the Sector and State by Sector levels, is not statistically significant and within current released standard errors for each series.

OTHER INFORMATION

COMPARABILITY WITH WAGE PRICE INDEX

For information on comparability between AWE and WPI, refer to the feature article Average Weekly Earnings and Wage Price Index - What do they measure?.

TREATMENT OF SURVEY OUTLIERS

Prior to May 2014, surprise outliering was used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier i.e significantly different to businesses in a group with similar characteristics (based on employment size, sector, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly. From the May 2014 issue, winsorisation methodology was introduced as the primary method to treat outliers in AWE.

Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. This improved methodology will provide more stable time series estimates. Surprise outliering will continue to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method. For further information, see paragraphs 37 to 39 of the Explanatory Notes.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

Australia

AUSTRALIA

Table 2 below presents the key Average Weekly Earnings, Australia estimates in Trend terms. Trend estimates are obtained by removing calendar related effects and irregular components from the data. They are considered a reliable guide to the underlying direction of the series.

Table 2: Average Weekly Earnings, Australia, Trend^(a), November 2014

	November 2014 \$	Nov 2013 to Nov 2014 % change
Males		
Full-time adult average weekly ordinary time earnings	1 587.40	3.5
Full-time adult average weekly total earnings	1 678.80	3.5
All employees average weekly total earnings	1 372.40	1.5
Females		
Full-time adult average weekly ordinary time earnings	1 289.30	1.7
Full-time adult average weekly total earnings	1 307.60	1.8
All employees average weekly total earnings	887.20	1.9
Persons		
Full-time adult average weekly ordinary time earnings	1 476.30	2.7
Full-time adult average weekly total earnings	1 539.40	2.7
All employees average weekly total earnings	1 128.90	1.3

(a) For further information regarding Trend estimates, please refer to paragraphs 60 to 66 of the Explanatory Notes.

Original series data presented below have not been adjusted to remove the effects of either seasonal or irregular influences. Compared with November 2013, Full-Time Adult Average Weekly Ordinary Time Earnings have risen 2.8% to \$1,477.00, in original terms.

Table 3: Average Weekly Earnings, Australia, Original, November 2014

	November 2014 \$	Nov 2013 to Nov 2014 % change
Males		
Full-time adult average weekly ordinary time earnings	1 587.50	3.6
Full-time adult average weekly total earnings	1 681.20	3.7
All employees average weekly total earnings	1 371.50	1.8
Females		
Full-time adult average weekly ordinary time earnings	1 292.70	1.8
Full-time adult average weekly total earnings	1 311.00	1.8
All employees average weekly total earnings	887.90	1.8

Persons		
Full-time adult average weekly ordinary time earnings	1 477.00	2.8
Full-time adult average weekly total earnings	1 542.40	2.8
All employees average weekly total earnings	1 128.70	1.3

It is important to note that while Average Weekly Earnings data can be used to compare, at the very broad level, average earnings between males and females, such comparisons do not take into account a range of compositional differences, for example, differences in occupation or hours worked which contribute significantly to the differences observed between male and female earnings. Details of occupation and hours worked are not collected in the Average Weekly Earnings survey. For further comparisons between male and female wages, including hourly rates and by occupation, refer to Employee Earnings and Hours, Australia, May 2014 (cat. no. 6306.0).

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Private and Public Sector Earnings

PRIVATE AND PUBLIC SECTOR EARNINGS

In November 2014, those employed in the Public sector had higher Full-Time Adult Average Weekly Ordinary Time Earnings than their Private sector counterparts, at \$1,570.80 and \$1,452.10 respectively (a difference of \$118.70).

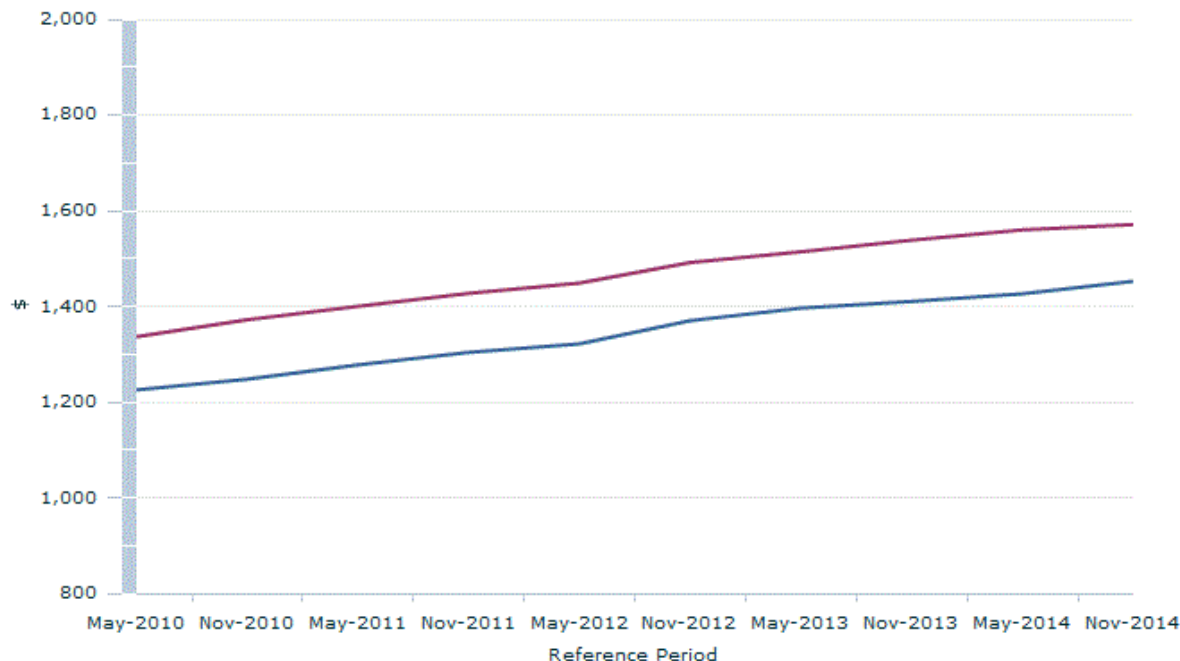
Table 4: Average Weekly Earnings, By Sector, Original, November 2014

	November 2014 \$	Nov 2013 to Nov 2014 % change
Australia		
Full-time adult average weekly ordinary time earnings	1 477.00	2.8
Full-time adult average weekly total earnings	1 542.40	2.8
All employees average weekly total earnings	1 128.70	1.3
Private Sector		
Full-time adult average weekly ordinary time earnings	1 452.10	2.9
Full-time adult average weekly total earnings	1 521.40	2.9
All employees average weekly total earnings	1 087.00	1.2
Public Sector		
Full-time adult average weekly ordinary time earnings	1 570.80	2.1
Full-time adult average weekly total earnings	1 621.40	2.3
All employees average weekly total earnings	1 306.30	1.8

Looking at Full-Time Adult Average Weekly Ordinary Time Earnings for November 2014 in more detail:

- the Full-Time Adult Male Average Weekly Ordinary Time Earnings were \$1,674.90 in the Public sector, and \$1,570.20 in the Private sector; and
- the Full-Time Adult Female Average Weekly Ordinary Time Earnings were \$1,469.00 in the Public sector, and \$1,223.30 in the Private sector.

Average Weekly Ordinary Time Earnings, Full Time Adults by Sector, Original



■ Private ■ Public

Select a different graph

Persons ▼

Save Chart Image

Australian Bureau of Statistics

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Source(s): Average Weekly Earnings, Australia

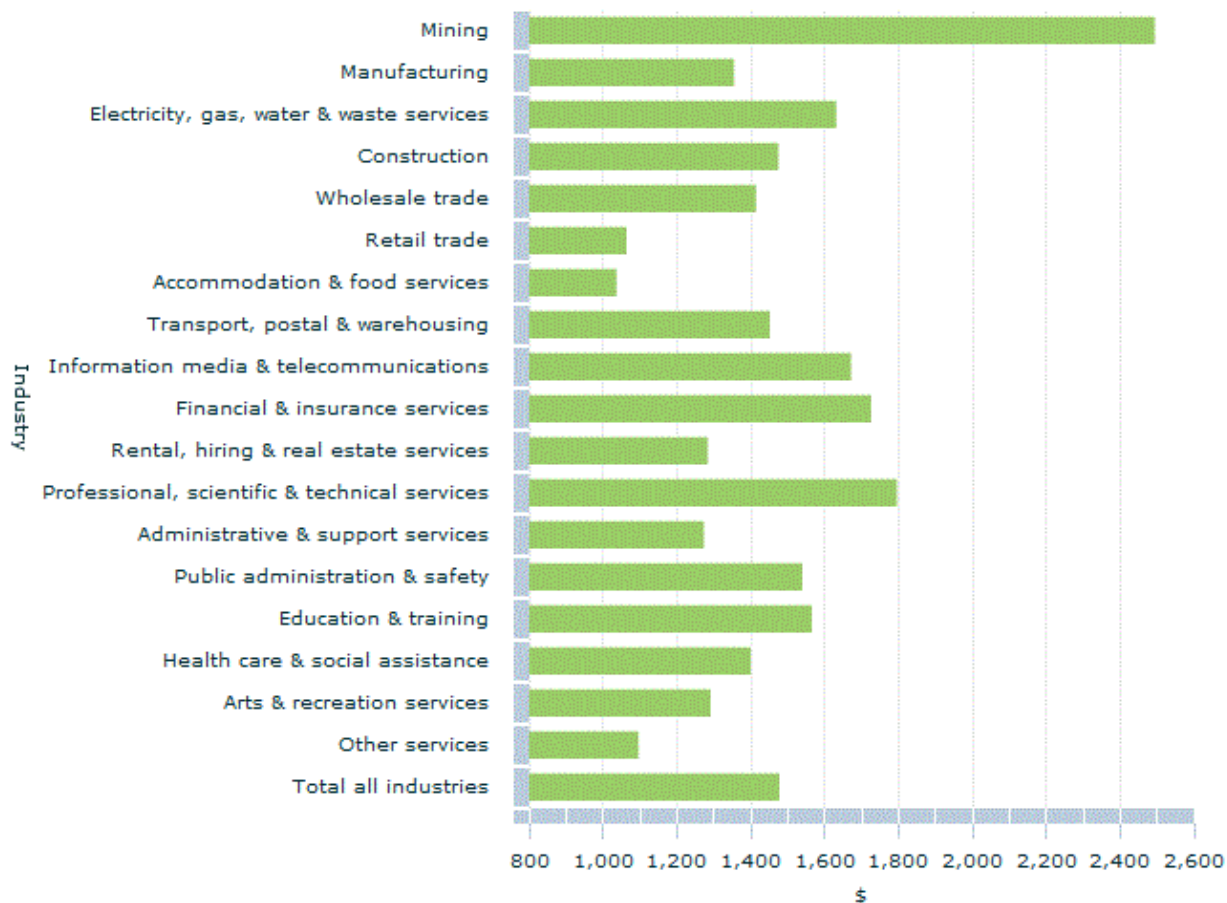
For further earnings information related to sector, including a breakdown by sex, and estimates in Trend and Seasonally Adjusted terms, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Industry Earnings

INDUSTRY EARNINGS

In November 2014, those employed in the Mining industry had the highest Full-Time Adult Average Weekly Ordinary Time Earnings in Australia at \$2,494.50. The industry with the lowest level of Full-Time Adult Average Weekly Ordinary Time Earnings was the Accommodation and food services industry (\$1,037.20).

Average Weekly Ordinary Time Earnings, Full Time Adults by Industry, Original, Nov 2014



Persons

Select a different graph

Persons

Save Chart Image

Australian Bureau of Statistics

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Source(s): Average Weekly Earnings, Australia

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the following link or click the downloads tab at the top of the page.

State and Territory Earnings

STATE AND TERRITORY EARNINGS

In November 2014, those employed in the Australian Capital Territory had the highest Full-Time Adult Average Weekly Ordinary Time Earnings at \$1,702.10, followed by Western Australia (\$1,673.10). The Australian Capital Territory has a high proportion of Public sector workers, who on average earn more than those in the Private sector. In recent years WA has experienced a

resource sector boom which has had a significant influence on wages in the Mining industry as well as those businesses providing services to Mining (for example, some businesses in the Construction and Wholesale trade industries).



Source(s): Average Weekly Earnings, Australia

For further earnings information related to States and Territories, including detailed breakdown by sex, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Average Weekly Cash Earnings

AVERAGE WEEKLY CASH EARNINGS

The Average Weekly Cash Earnings (AWCE) series is important because it reflects employee earnings including amounts salary sacrificed. Amounts salary sacrificed can vary from period to period and impact on the interpretation of movements presented in the other sections of this e-magazine.

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of his or her salary in return for benefits of a similar value. Common types of salary sacrifice

arrangements include pre-tax contributions to superannuation funds and novated leases for motor vehicles.



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Source(s): Average Weekly Earnings, Australia

In November 2014, on average, full-time adult employees in Australia salary sacrificed \$51.40 (Full-time adult ordinary time cash earnings \$1,528.40 minus Full-time adult ordinary time earnings \$1,477.00). This is an increase of \$3.00 from May 2014.

Amounts salary sacrificed by an employee can be affected by a change in his or her earnings (for example, an increase in the level of overtime worked or commissions earned). Additionally, some employees sacrifice more of their salary at the beginning of the financial year and then the amount tapers off towards the end of the year when he or she has reached the concessional contributions cap for salary sacrificing superannuation. For other employees, the amount of salary sacrificed increases towards the end of the financial year to ensure the cap is reached. A feature article examining Salary Sacrifice in Australia was included in the November 2012 edition of the Average Weekly Earnings release and can be found in the following link.

For further earnings information related to Average Weekly Cash Earnings, please refer to the

time series spreadsheets in the following link or click on the downloads tab at the top of the page.

A Guide to Understanding Average Weekly Earnings Statistics

This document was added or updated on 02/07/2015.

A GUIDE TO UNDERSTANDING AVERAGE WEEKLY EARNINGS STATISTICS

INTRODUCTION

The Survey of Average Weekly Earnings (cat. no. 6302.0) is designed to produce estimates of the level of average weekly earnings of employees in Australia, at a point in time. It is one of a suite of ABS statistics providing information about earnings in Australia.

Average Weekly Earnings (AWE) statistics are referenced in a range of Commonwealth, state and territory legislation to adjust a variety of government payments, including the age pension. They are also used to analyse average earnings to inform wage claim submissions, monitor wage equity and develop taxation and social policies. In addition, AWE data are used in the compilation of the Australian National Accounts.

The aim of this article is to provide a guide for users of AWE by explaining:

- How the data are collected.
- What statistics are produced.
- Factors to consider when using AWE data.

HOW AWE DATA ARE COLLECTED

AWE statistics are collected via a sample survey, which means data are collected from a selection of businesses instead of all businesses in Australia. The individual businesses included in the sample change over time.

The following data items are collected every six months from over 5,000 employing businesses:

- Number of full time adult employees and number of other employees.
- Taxable gross weekly earnings (including overtime but excluding salary sacrificed earnings) for full time adults and other employees.
- Weekly overtime earnings, for full time adults.
- Weekly salary sacrificed earnings, for full time adults and other employees.

For the purposes of AWE, employees refer to all wage and salary earners who received pay for any part of the reference period. Earnings are the pre-tax (gross) regular wages and salaries received by employees for work done or time worked (including paid leave) before any deductions (taxes, life insurance premiums, union dues, etc.) are made. Irregular and infrequent payments, such as annual bonuses, are excluded.

These sample data are weighted to provide estimates for the whole population of in scope

businesses.

Data for AWE are collected at the business level, rather than the job or employee level. That is, the above data items are collected as aggregates, separated only into male and female employees.

WHAT AWE STATISTICS ARE PRODUCED?

The data items, listed above, obtained from businesses are used to calculate mean, or average, earnings for the following series:

- Full time adult average weekly ordinary time earnings (excludes overtime).
- Full time adult average weekly total earnings (includes overtime).
- All employees average weekly total earnings (all employees including part-timers and juniors; and earnings for all hours worked, including overtime).

The main AWE statistical series are available both inclusive and exclusive of salary sacrificed earnings.

The following example shows how All employees average weekly total earnings (includes overtime) is calculated:

$$\text{Average weekly total earnings (includes overtime)} = \frac{\text{Total taxable gross weekly earnings}}{\text{Total employees}}$$

Each of the above series are available for males, females, and persons.

Estimates are available by state/territory, industry division, and sector. State by sector estimates are available for persons only. Seasonally adjusted and trend estimates are also produced.

AWE statistics closely follow the International Labour Organization's concept of 'Statistics of average earnings'. The data are collected in respect of a typical week. For more information on what is included or excluded from AWE definitions of earnings, refer to the Explanatory Notes of Average Weekly Earnings, Australia, and Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

Estimates of the average level of earnings provide a level benchmark that can be used in comparisons. For example, individuals can compare their own earnings to the average level of earnings in their industry or state/territory.

It is important to note that AWE estimates do not relate to average award rates, nor to the earnings of the 'average person'.

FACTORS TO CONSIDER WHEN USING AWE DATA

AWE is not a survey of individual workers and how their earnings change over time. It looks at overall earnings in the economy relative to the number of employees. Therefore, changes in the composition of the labour market can have significant impacts on average earnings estimates that are unrelated to changes in individuals' rates of pay. The key factors to consider when using AWE data are highlighted in the following three examples.

1. Comparing average earning estimates between different groups of employees

The level of average earnings may differ between groups of employees across different states

and territories, industries or sex due to a number of factors. Because of this, the information collected and produced from AWE does not enable the impact of a single factor on average wages across these groups, such as sex, to be easily isolated. This issue is explored further below.

Comparisons of average earnings: males and females

AWE statistics show a difference in average earnings between males and females. This is at least in part due to compositional factors that impact on earnings and are not adjusted for in the AWE series, such as:

- employee characteristics such as age, experience and training,
- hours worked,
- employment conditions, and
- occupation.

For example, data from Employee Earnings and Hours, Australia (EEH; cat. no. 6306.0) reported that in May 2014, male employees were predominately full-time (76.6% of male employees). In contrast, more female employees were employed part-time (56.2%) than full-time (43.7%). As such, it would be expected that, on average, men would be paid for a higher number of hours of work than women. If, for comparison purposes, the population is restricted to only include full-time non-managerial employees paid at the adult rate, differences still remain in the number of hours paid for men compared to women. EEH data reported that the average weekly total hours paid for full-time non-managerial employees paid at the adult rate was 40.7 hours for males and 38.3 hours for females.

The Labour Force Survey provides a wide range of data relevant for examining the composition of the workforce. For example, data from Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003) show large differences in the proportion of males and females employed by industry. In May 2014, most employees (85.9%) in the highly-paid Mining industry were male. In the lower paid industries of Accommodation and food services and Retail trade, the majority of employees were female (both 56.4%).

Because of these compositional factors, AWE statistics cannot answer whether males and females receive 'equal pay for equal work'. Also as it does not collect the relevant information, AWE is not suitable for determining the causes of differences in average earnings between males and females.

Other ABS sources of earnings statistics are better placed to address some of these types of questions. For example, Employee Earnings and Hours, Australia and Employee Earnings, Benefits and Trade Union membership, Australia (cat. no. 6310.0) collect and publish information on characteristics of employees. Gender Indicators (cat. no. 4125.0) may also be of use for researchers investigating gender differences. For more information on other measures of earnings, see Understanding earnings in Australia using ABS statistics.

Comparison of average earnings: states and territories

As with comparing average earnings between males and females, the composition of the labour force in different states and territories will influence the estimates. For example, data from November 2014 indicate that the Average weekly ordinary time earnings (AWOTE, original) for full time adults is higher for employees in Western Australia (WA; \$1,673.10) than for those in New South Wales (NSW; \$1,492.30).

One factor likely contributing to the observed differences in the level of average weekly earnings between WA and NSW is the impact of the recent resources construction boom in WA. The resources boom increased the proportion of WA employees working in Mining (which is the industry with the highest average weekly ordinary time earnings for full-time adults), contributing to an increase in the average weekly earnings for WA. Also skills shortages and competition for

labour have previously led to higher earnings in WA, particularly in skilled occupations in industries such as Construction and Mining.

As with comparing males and females, differences in compositional factors such as hours worked, occupations and labour market conditions may affect average earnings between states.

The higher level of average weekly earnings in WA does **not** suggest that, all other things being equal, an employee in NSW earns less for performing the same job.

2. Sampling error

Sampling error is the difference between the estimates produced by taking a sample of employing businesses, and the values that would have been produced if the information had been obtained from a census of all employing businesses.

The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the standard error. The standard error indicates the degree to which an estimate may vary from the value which would have been obtained from a census of all businesses (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about 19 chances in 20 that the difference will be less than two standard errors.

To enable interpretation of AWE estimates, the ABS publishes standard errors for original series data. These are available in the Time Series Spreadsheets under the Downloads tab of the AWE release. Any analysis of AWE data should be undertaken with the standard errors in mind. For more general information on sampling error, refer to the Statistical Language - Measures of Error section of the ABS website.

An example of the use of the standard error is as follows. If the estimated Full time adult average weekly total earnings (Australia; Original; Persons), November 2014 were \$1,542.40, with a standard error of \$8.30, then:

- there are about two chances in three (67%) that the true value is between \$1,534.10 and \$1,550.70 ($\$1,542.40 \pm \8.30);
- there are about 19 chances in 20 (95%) that the true value is between \$1,525.80 and \$1,559.00 ($\$1,542.40 \pm 2 \times \8.30).

3. Movements in AWE estimates

With the exception of annual movements at the broadest level (Australia and sector), the ABS does not currently release estimates of movements for AWE for the reasons described below. However, many users of AWE data calculate estimates of movements at the state or industry level from the published average earnings estimates. While, over the longer term, AWE gives a reliable measure of changes in average earnings, caution needs to be exercised in interpreting AWE movements from period to period.

First, AWE estimates can be affected by sampling (ie, changes in which businesses are selected in the AWE sample over time). Short term changes in the estimates of average earnings in many cases are quite small compared to the size of the standard errors of those estimates. In these cases, the changes in earnings may be due to sampling variability and may not be statistically significant.

Second, a frequent misconception is that changes in average earnings estimates largely reflect changes in individuals' salaries or hourly rates of pay. While changes in wage rates do impact AWE estimates, they cannot be isolated from other factors and often may not be the primary driver of changes in estimates. Other factors impacting AWE estimates from one time period to

the next include real world events - such as changes in hours worked, upskilling of jobs over time in the labour force, or changes in occupations.

Users interested in changes in wage rates over time, independent of changes in quality and quantity of labour, should refer to the Wage Price Index, Australia (cat. no. 6345.0). For more information on the differences between AWE and the Wage Price Index, refer to the feature article *Average Weekly Earnings and Wage Price Index - What do they measure?* published in the May 2014 issue of AWE.

CONCLUSION

AWE is one of a suite of ABS statistics that can inform discussions of earnings in Australia. The survey is designed to provide an estimate of average wages and salaries at a point in time. The survey is not designed to represent the earnings of the 'average person'. Changes in earnings over time may be caused by a large variety of factors and may not reflect changes in pay experienced by a typical individual employee. The survey is not designed to accurately measure short-term movements in wages growth, or for investigating the causes of differences in earnings between groups. Other ABS releases, such as those listed below, provide statistics on earnings but differ in a number of ways from AWE. The decision on which is the most appropriate source of earnings data should be determined by the purpose and type of analysis to be undertaken.

FURTHER INFORMATION

Employee Earnings and Hours, Australia (cat. no. 6306.0) - Collects detailed information on employee earnings and characteristics of individuals from businesses. In addition to the mean, the median, quartiles and deciles can be calculated, giving an indication of the distribution of earnings across the population. Earnings data can be explored by characteristics of employees, such as age, occupation or the number of hours paid for.

Employee Earnings, Benefits and Trade Union membership, Australia (cat. no. 6310.0) - Collects detailed information on employee earnings and characteristics of individuals from households. As for Employee Earnings and Hours, the median, quartiles and deciles of earnings are available, giving an indication of the distribution of earnings across the population. Earnings data can be explored by characteristics of employees, such as age, occupation or country of birth.

Wage Price Index, Australia (cat. no. 6345.0) - Measures changes in the price of wages and salaries in the Australian labour market, independent of changes in the composition of the labour force, hours worked and employee characteristics.

Average Weekly Earnings and Wage Price Index - What do they measure? - A feature article published in the May 2014 issue of AWE. It outlines the purpose and key uses of AWE and the Wage Price Index, and explains how the two surveys can respond differently to economic events using hypothetical examples.

Understanding earnings in Australia using ABS statistics - A feature article providing an overview of measures of earnings produced by the ABS, their key outputs, benefits and limitations.

About this Release

Results of the biannual Survey of Average Weekly Earnings containing estimates of average weekly ordinary time earnings and average weekly total earnings for full-time adult employees and average weekly total earnings for all employees. Results are classified by sector,

state/territory and industry for males, females and persons, and cross-classified by sector by state/territory for persons.

History of Changes

This document was added or updated on 02/07/2015.

02/07/2015 - A guide to understanding Average Weekly Earnings statistics has been added to this issue.

Explanatory Notes

Explanatory Notes

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains biannual estimates of Average Weekly Earnings (AWE) based on information obtained from a sample survey of employers.

CONCEPTS, SOURCES AND METHODS

2 Descriptions of the underlying concepts of Australia's AWE statistics, and the sources and methods used in compiling these estimates, are presented in Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.001).

REFERENCE PERIOD

3 AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

SCOPE AND COVERAGE

4 All wage and salary earners who received pay for the reference period are represented in the AWE survey, except:

- members of the Australian permanent defence forces;
- employees of enterprises primarily engaged in agriculture, forestry and fishing;
- employees of private households;
- employees of overseas embassies, consulates, etc.;
- employees based outside Australia; and
- employees on workers' compensation who are not paid through the payroll.

5 Also excluded are the following persons who are not regarded as employees for the purposes of this survey:

- casual employees who did not receive pay during the reference period;
- employees on leave without pay who did not receive pay during the reference period;
- employees on strike, or stood down, who did not receive pay during the reference period;
- directors who are not paid a salary;
- proprietors/partners of unincorporated businesses;
- self-employed persons such as subcontractors, owner/drivers, consultants;
- persons paid solely by commission without a retainer; and
- employees paid under the Australian Government's Paid Parental Leave Scheme.

6 The sample for AWE, like most Australian Bureau of Statistics (ABS) business surveys, is selected from the ABS Business Register (ABSBR) which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding (PAYGW) scheme. The business register is updated quarterly to take account of:

- new businesses;
- takeovers and mergers;
- changes in industry classification;
- changes in the number of employees;
- businesses which have ceased employing; and
- other general business changes.

7 The estimates include an allowance for the time it takes newly registered businesses to be added to the survey population.

8 Businesses which have ceased employing are identified when the ATO cancels their PAYGW registration. In addition, businesses which have not remitted under the PAYGW scheme for the previous five quarters are removed from the population.

SURVEY DESIGN

9 A sample of approximately 5,500 employer units is selected from the ABS Business Register to ensure adequate state, industry and sector representation. The sample is updated each survey period to reflect the changes described in paragraph 6. These changes arise from the emergence of new businesses, takeovers and mergers, changes to industry classification, changes in the number of employees, and businesses which have ceased operations. Such updating of the business register can contribute to movements in the AWE estimates.

10 A sample redesign of the AWE survey was implemented in August 2009 incorporating the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

11 The statistical unit for the survey comprises all the activities of an employer in a particular state or territory based on the Type of Activity Unit. For further information on the statistical unit see paragraphs 18 to 33. Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, sector, industry and employment size, and within each stratum, statistical units are selected with equal probability.

INDUSTRY CLASSIFICATION

12 The statistics in this release are classified to industry in accordance with the Australian and

New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0). This replaced the 1993 edition of ANZSIC in the August 2009 issue of this publication, which had been in use since 1994.

13 The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

SURVEY FREQUENCY

14 Up until May 2012, Average Weekly Earnings was conducted on a quarterly basis. However, the frequency of the AWE survey is now biannual, with the May 2012 edition being the last quarterly issue and the November 2012 edition the first produced on a biannual basis. AWE data is now produced twice a year relating to the May and November reference periods only. Data is collected and released on the same basis as before for the May and November reference periods. For full details on the change in frequency, refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002)

15 As a result of the change in frequency, new seasonally adjusted and trend estimate series are produced (refer to paragraphs 56-66).

IMPACT OF STATISTICAL CHANGES IMPLEMENTED IN AUGUST 2009

16 With effect from the August 2009 edition, this publication presents data on the basis of ANZSIC 2006. At this time, the ABS also implemented a sample redesign. The changes resulted in a shift in the level of the series from ANZSIC 1993 to ANZSIC 2006 estimates. The difference in the level of the two series was measured and backcast into the historical series to make a time series of estimates on an ANZSIC 2006 basis. Differences at the state, sector and Australia levels are generally insignificant and within released standard errors for each series.

17 Published industry series were backcast and data from August 1994 to May 2009 are available on the basis of both editions of ANZSIC on the ABS website. More information about these changes can be found in the Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009 (ABS cat. no. 6302.0.55.002).

ABS ECONOMIC UNITS MODEL

18 The Economic Units Model is used by the ABS to determine the structure of Australian businesses and other organisations. The model consists of:

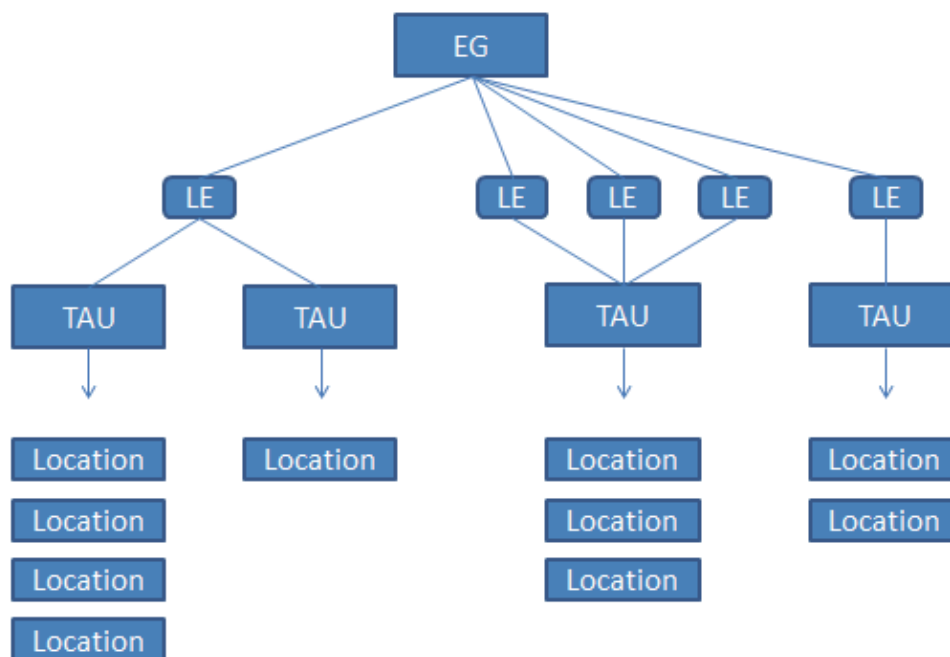
- The Enterprise Group (EG)
- Legal Entities (LEs)
- Type of Activity Units (TAUs)
- Location Units.

19 The EG and LE are institutional units and the TAU and Location are producing units.

20 The LE and the TAU are the main institutional and producing units used by the ABS to produce statistical outputs.

21 Diagram 1 illustrates the nature of the relationships between the different units within the model.

Diagram 1: ABS Economic Units Model*



** The legal entity (LE) statistical unit is generally equivalent to a single Australian Business Number registration*

UNIT DEFINITIONS

22 The Legal Entity (LE) is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases the LE is equivalent to a single ABN registration.

23 The Enterprise Group (EG) is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

24 The Type of Activity Unit (TAU) comprises one or more Legal Entities, sub-entities or branches of a Legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the Australian and New Zealand Standard Industrial Classification (ANZSIC) subdivision level.

25 A Location is a producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

CLASSIFICATION OF UNITS

26 Various classifications are applied to the units in the ABS Economic Units Model. The main classifications applied are:

- ANZSIC
- Type of Legal Organisation (TOLO)
- Type of Business Entity (TOBE)
- Standard Institutional Sector Classification of Australia (SISCA)
- Public / Private classification

27 ANZSIC is used to classify the industry in which the TAU has productive activity. Further information on this classification can be found in Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

28 SISCA provides a framework for dividing the Australian economy into institutional sectors. Further information on this classification can be found in Standard Economic Sector Classifications of Australia (SESCA), 2008 (cat. no. 1218.0).

ABS BUSINESS REGISTER

29 The ABSBR is a list of businesses and organisations operating in Australia and is based on the Australian Business Register (ABR). Organisations are included on the ABR when they register for an Australian Business Number (ABN). The Commonwealth Government requires all government departments and agencies to make use of the ABR to reduce government imposed reporting load, and to use the ABN as the primary reference number for all dealings between government and business. The ABSBR is used to create frames for the various business surveys run by the ABS.

30 It is not practicable for the ABS Economic Units Model to be applied to all ABR registrants and the Model is therefore organised into two parts: the profiled population, and the non-profiled population.

31 Profiled Population: Businesses and other organisations which are considered sufficiently complex and economically significant, are profiled according to the Economic Units Model. These enterprise groups typically have multiple legal entities, multiple TAUs and are among the largest contributors within industries.

32 Non-Profiled population: Businesses and other organisations with less complex structures. They are regarded as an enterprise group with a single legal entity and a single TAU in accordance with the Economic Units Model. Information for units in the non-profiled population is largely sourced from the ABR.

33 The two populations are mutually exclusive and cover all organisations in Australia which have registered for an ABN.

GENERAL NOTES ON ESTIMATES

34 AWE statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. AWE estimates are derived by dividing estimates of weekly total earnings by estimates of the number of employees. Changes in the averages may be affected not only by changes in the level of earnings of employees but also by changes in the overall composition of the wage and salary earner segment of the labour force.

35 There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries. Such effects may apply differently within different states and

territories, and over time.

36 AWE statistics closely follow the International Labour Organisation's concept of 'Statistics of average earnings'. The data is collected in respect of a typical week and, therefore, may not reflect events such as Christmas trading. Further, the data excludes irregular and infrequent payments, such as annual bonuses. For these reasons, caution is advised if using AWE to derive annualised average earnings.

37 Prior to May 2014, surprise outliering was used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier i.e significantly different to businesses in a group with similar characteristics (based on employment size, sector, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly.

38 From the May 2014 issue, winsorisation methodology was introduced as the primary method to treat outliers in AWE. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. This improved methodology will provide more stable time series estimates. Surprise outliering continues to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method.

39 An analysis of the May 2014 estimates was undertaken to identify the impact on the estimates of the change in methodology. At the Australia level the impact of the change was found to be minimal. However, for some data items in some industries and states there is an impact on the estimates. For further information on outliers, refer to Chapter 17 of Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.011).

AVERAGE WEEKLY CASH EARNINGS

40 The definition of earnings currently used in the AWE survey is, broadly, current and regular payments in cash to employees for work done. Thus, earnings series from the AWE survey historically excluded amounts salary sacrificed, as these had been considered conceptually as payments in kind. However, under the revised conceptual framework for measures of employee remuneration, as presented in Information Paper: Changes to ABS Measures of Employee Remuneration, 2006 (cat. no. 6313.0), amounts salary sacrificed are now considered conceptually to be wages and salaries in cash. Accordingly, the AWE questionnaire was redesigned and, from August 2007, the collection of information on amounts salary sacrificed by employees commenced. However, the AWE series has continued to be published on the old conceptual basis (i.e. exclusive of amounts salary sacrificed) to maintain long term comparability of the time series.

41 Although the AWE survey has conceptually excluded amounts salary sacrificed, in practice, there was evidence that earnings series from the AWE survey had inadvertently included some amounts salary sacrificed. The ABS worked closely with data providers to identify any instances of misreporting, and to amend their reporting practices where necessary.

42 As a result of the separate collection of salary sacrificed amounts from August 2007, and other analyses, the ABS was able to quantify the extent of mis-reporting that had occurred, and to estimate the impact of this mis-reporting on the historical series. Consequently, AWE data series for August 1996 through to May 2008 were revised to exclude all amounts salary sacrificed. For further information see Information Paper: Revisions to the Average Weekly Earnings Series, Aug 2008 (cat. no. 6302.0.55.001) released 11 November 2008.

43 Since the May 2011 edition of this publication, Average Weekly Cash Earnings (AWCE) series have been released as additional (not replacement) AWE series. The difference between the AWCE and the AWE series is the average weekly amount salary sacrificed. Data relating to

the AWCE series are available in the data cubes on the Downloads tab at the top of this page. For more information relating to the AWCE series, refer to the Information Paper: Release of Average Weekly Cash Earnings Series, May 2011 (cat. no. 6302.0.55.003) and for broad level analysis and findings refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

COMPARABILITY OF SERIES

44 The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to September 1981, the AWE series was based principally on information from payroll tax returns. Revised estimates of AWE for the period August 1981 to November 1983 were included in Average Weekly Earnings, States and Australia, March 1984 (cat. no. 6302.0) published on 12 July 1984 and available on the ABS website. Users who need a measure of the movement in earnings for a period which spans both the payroll tax based and employer survey series should refer to Table 3 in that publication which presents both series linked to a common index base (August 1981 = 100.0).

ESTIMATES OF MOVEMENT IN AWE

45 AWE is designed to provide estimates of the level of average earnings at a point in time and, while not designed for movements in earnings, the frequency of collection supports a time series of these level estimates. Data on the average level of earnings are useful for providing a level benchmark to compare a specific amount to an average level of earnings (for example, what an individual earns compared to the average).

46 As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for the period-to-period movements are much higher proportionally than for the level estimates. Estimates of movement should be interpreted with this in mind. An alternative source for estimates of movements in the price of wages in Australia is the Wage Price Index, Australia (cat. no. 6345.0) (see paragraphs 47-52).

COMPARABILITY WITH WAGE PRICE INDEX

47 Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index (WPI). It is important to recognise that the two series have different purposes and concepts and use different sample selection and estimation methodologies.

48 The AWE survey is designed to measure the level of average earnings in Australia at a point in time. It does this by obtaining data from selected businesses on the total earnings paid to their employees and the total number of employees in the business, for a specific pay period. Together, this data is used to derive the mean, or average, earnings. These sample data are then weighted to provide estimates for the whole population of in scope businesses.

49 The WPI is a price index designed to measure the change over time in the price of wages and salaries. It does this by pricing specific jobs, in terms of wage and salary payments to employees occupying the jobs, and collecting information from businesses each quarter on price changes in those jobs. It is unaffected by changes in the quality and quantity of labour services purchased by employers.

50 In addition to changes in the price of labour, AWE estimates are affected by changes in hours worked and by compositional changes in the employee workforce (see paragraphs 34 and 35). The WPI prices a fixed quantum of labour services for each job, and hence changes to base earnings resulting from increases in hours worked or from changes in the composition of the employee workforce will not be reflected in the index.

51 For further information on comparability between AWE and WPI, refer to the feature article Average Weekly Earnings and Wage Price Index - What do they measure? published in the May 2014 AWE issue.

52 For further information on the WPI, refer to the Explanatory Notes of Wage Price Index, Australia (cat. no. 6345.0) and Wage Price Index: Concepts, Sources and Methods, 2012 (cat. no. 6351.0.55.001) which are available on the ABS web site.

ALTERNATIVE ABS EARNINGS DATA

53 Information about wages and salaries paid to employees is used for many purposes including economic analysis, social research, policy formation and evaluation, and research by employer and employee associations. In addition to AWE, the ABS publishes a variety of other information on wages and salaries (generally referred to as 'earnings'), from both household and employer surveys. For further information on these other sources, refer to the feature article Understanding Earnings in Australia Using ABS Statistics published in Employee Earnings, Benefits and Trade Union Membership, Australia, August 2013 (cat. no. 6310.0).

EFFECTS OF ROUNDING

54 Estimates of average weekly earnings are rounded to the nearest 10 cents.

55 Estimates of percentage change have been calculated using unrounded estimates and may be different from, but are more accurate than, movements obtained from calculating percentage changes using the rounded estimates presented in this publication.

SEASONAL ADJUSTMENT

56 Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation. If a time series has no identifiable seasonality it is not seasonally adjusted.

57 In 2012, as part of the transition from a quarterly to a biannual frequency, the ABS conducted an assessment of seasonality in the biannual AWE series. Based on the information available at the time, it was determined that moving to a biannual frequency eliminated seasonality for most AWE series and for these series the seasonally adjusted estimate was exactly equal to the original estimate. A 2014 review into the seasonality of biannual AWE series showed that some seasonality is now present in series that previously did not display seasonality. For these series, seasonal factors are now applied. Other series that were assessed as seasonal are no longer displaying seasonality. For these series the seasonally adjusted estimate will now equal the original estimate. These changes are applied to the entire published series (i.e. commencing with May 2012).

58 The biannual seasonally adjusted series, commencing November 2012, uses the ABS's existing quarterly seasonal adjustment method. Linear interpolation is used to impute "missing" quarterly original observations based on the succeeding and preceding survey estimates. In this way a quarterly original data series is synthesised from the actual biannual data collected. These synthesised estimates are used in the seasonal adjustment process and are not released. The concurrent seasonal adjustment technique is used to estimate seasonal factors from this quarterly synthesised original data.

59 Under concurrent seasonal adjustment, the estimates of seasonal factors are improved as new or revised original estimates become available each period. However, for this collection, the seasonally adjusted estimates up to May 2012, presented in the May 2012 edition, will not be revised as they were based on actual quarterly observations, whereas those after that point are based on biannual observations.

TREND ESTIMATES

60 Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates.

61 The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

62 The trend estimates in this publication, obtained by dampening out the irregular component from the seasonally adjusted series, are calculated using a centred 7-term Henderson moving average of the seasonally adjusted estimates of quarterly synthesised original data. Estimates for the two most recent periods cannot be calculated using this centred average method; instead an asymmetric average is used. This can lead to revisions in the trend estimates for the last two observations when data become available for later periods. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors. If a series is highly volatile then the trend estimates will be subject to greater revision for the latest few observations as new data become available. However, it is important to note that this does not make the trend series inferior to the seasonally adjusted or original series.

63 Please note that calculating seasonally adjusted and trend estimates on the synthesised quarterly series has resulted in a slight change in the level of the data. When the new series were implemented, the change in the level of data was calculated against historic data. At the Australia level, the maximum differences for full-time adult male average weekly ordinary time earnings between estimates based on the two frequencies were \$4.20 in the trend series and \$4.60 in the seasonally adjusted series. Over the length of the series the mean differences were \$0.48 for the trend series and \$0.76 for the seasonally adjusted series.

64 Those users seeking historical seasonally adjusted and trend estimates will be required to access past AWE editions, which are available on the ABS website. It is advised that seasonally adjusted and trend estimates produced before and after the May 2012 edition are not directly comparable and these historical series before the May 2012 edition will not be produced from less frequent biannual observations.

65 The privatisation of Telstra Corporation in November 2006 impacted on the private sector and public sector AWE series. For the purposes of ABS statistics, this change from public sector to private sector was effective from March quarter 2007. The effect of this change was significant for both the private sector and public sector series. As a result, a trend break was applied to both series between November 2006 and February 2007. For more information see Information Paper: Future Treatment of Telstra in ABS Statistics, 2007 (cat. no. 8102.0), released 26 February 2007.

66 For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0) or contact ABS Time Series Analysis section on (02) 6252 6345 or email time.series.analysis@abs.gov.au.

RELATED PUBLICATIONS

67 The following publications contain related information:

- Australian Labour Market Statistics (cat. no. 6105.0);
- Employee Earnings and Hours, Australia (cat. no. 6306.0) - issued biennially;
- Employee Earnings, Benefits and Trade Union Membership, Australia (cat. no. 6310.0);
- Employment and Earnings, Public Sector, Australia (cat. no. 6248.0.55.002) - issued annually;
- Experimental Estimates, Regional Wage and Salary Earner Statistics, Australia (cat.no. 5673.0);
- Gender Indicators, Australia (cat. no. 4125.0) - issued biannually;
- Information Paper: Changes to ABS Measures of Employee Remuneration, 2006 (cat. no. 6313.0) - issued 14 November 2006;
- Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009 (cat. no. 6302.0.55.002) - issued 5 November 2009;
- Information Paper: Changes to Average Weekly Earnings, Australia, Apr 2012 (cat. no. 6302.0.55.002) - issued 16 April 2012;
- Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System], 2002 (cat. no. 1372.0) - issued 6 May 2002;
- Information Paper: Release of Average Weekly Cash Earnings Series, May 2011 (cat. no. 6302.0.55.003) - issued 21 July 2011;
- Information Paper: Revisions to Average Weekly Earnings Series, Aug 2008 (cat. no. 6302.0.55.001) - issued 11 November 2008;
- Labour Force, Australia (cat. no. 6202.0) - issued monthly;
- Wage Price Index, Australia (cat. no. 6345.0) - issued quarterly; and
- Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.001) - issued 6 July 2007.

Glossary

GLOSSARY

Adult employees

Adult employees are those employees 21 years of age or over and those employees who, although under 21 years of age, are paid at the full adult rate for their occupation.

Average weekly cash earnings

Average weekly cash earnings represents average gross (before tax) earnings of employees, inclusive of salary sacrifice. Average weekly cash earnings differs from average weekly earnings by the average weekly amount salary sacrificed.

Average weekly earnings

Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees.

Employees

Employees refer to all wage and salary earners (as defined in paragraphs 4 and 5 of the Explanatory Notes) who received pay for any part of the reference period.

Full-time employees

Full-time employees are permanent, temporary and casual employees who normally work the agreed or award hours for a full-time employee in their occupation and received pay for any part of the reference period. If agreed or award hours do not apply, employees are regarded as full-time if they ordinarily work 35 hours or more per week.

Reference period

The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter. Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Salary Sacrifice

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of their pre-tax salary in return for benefits. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for motor vehicles.

Sector

Public sector includes all local government authorities and government departments, agencies and authorities created by, or reporting to the Commonwealth and State parliaments. All remaining employees are classified as private sector.

Weekly ordinary time earnings

Weekly ordinary time earnings refers to one week's earnings of employees for the reference period, attributable to award, standard or agreed hours of work. It is calculated before taxation and any other deductions (e.g. superannuation, board and lodging) have been made. Included in ordinary time earnings are award, workplace and enterprise bargaining payments, and other agreed base rates of pay, over-award and over-agreed payments, penalty payments, shift and other allowances, commissions and retainers, bonuses and similar payments related to the reference period, payments under incentive or piecework, payments under profit sharing schemes normally paid each pay period, payment for leave taken during the reference period, all workers' compensation payments made through the payroll, and salary payments made to directors. Excluded are amounts salary sacrificed, non-cash components of salary packages, overtime payments, reimbursements to employees for travel, entertainment, meals and other expenditure incurred in conducting the business of their employer, and other payments not related to the reference period.

Weekly total earnings

Weekly total earnings of employees is equal to weekly ordinary time earnings plus weekly overtime earnings.

Abbreviations

ABBREVIATIONS

ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification

ATO	Australian Taxation Office
AWCE	Average Weekly Cash Earnings
AWE	Average Weekly Earnings
EG	Enterprise Group
LE	Legal Entity
PAYGW	Pay-As-You-Go Withholding
SISCA	Standard Institutional Sector Classification of Australia
TAU	Type of Activity Unit
TOBE	Type of Business Entity
TOLO	Type of Legal Organisation
WPI	Wage Price Index

Quality Declaration

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The biannual Survey of Average Weekly Earnings (AWE) is designed to produce estimates of the level of average gross weekly earnings associated with employee jobs in Australia, at a point in time. While AWE is not designed for movement in earnings, the frequency of collection supports a time series of these level estimates. In practice, AWE is used for estimates of both the level of earnings and movement in earnings; level estimates and estimates of movement in AWE are linked to both state and federal legislation for adjusting a variety of government payments. AWE data are also used for analysing average earnings, framing and supporting wage claims/submissions, monitoring wage equity and developing taxation and social policies.

The key earnings series produced from the survey are:

- full-time adult ordinary time earnings (commonly referred to as AWOTE);
- full-time adult total earnings;
- all employees total earnings.

Each of the above series is available for males, females and persons. Estimates are available by state/territory, industry and sector. Seasonally adjusted, where there is observed seasonality, and trend estimates are produced for key series. Cash series estimates, which are inclusive of amounts salary sacrificed, are also available.

TIMELINESS

AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Up until May 2012, Average Weekly Earnings was conducted on a quarterly basis. The frequency of the AWE survey was changed to biannual with effect from the 2012/13 financial year. The May 2012 publication was the last quarterly issue and the November 2012 the first produced on a biannual basis.

AWE estimates are released approximately 13 weeks after the reference date for the May edition and 14 weeks after the reference date for the November edition due to the Christmas and New Year period.

ACCURACY

Information for the AWE survey is collected via web form questionnaires which are distributed to approximately 5,500 employers. The population of employers is stratified by state, sector, industry division and employment size to ensure adequate state, sector and industry representation. The target minimum response rate is 96% for the survey as a whole and 90% for each state, sector and industry.

There are two principal sources of error in surveys: sampling error and non-sampling error. Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise non-sampling error by the careful design and testing of questionnaires, detailed checking of the reported data and direct follow up with providers where significant errors are detected.

Sampling error occurs when a sample or subset of the population is surveyed rather than the entire population. One measure of the likely difference resulting from not including all of the population in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the whole population had been included in the survey.

As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for period-to-period movements are much higher proportionally than for level estimates. Estimates of movement should be interpreted with this in mind.

AWE estimates are seasonally adjusted to remove the estimated effects of normal seasonal variation from the series. The seasonally adjusted series are further smoothed to reduce the impact of irregular or non-seasonal factors. Smoothed seasonally adjusted series are called trend estimates. As data becomes available for the next period there are usually revisions in the seasonally adjusted and trend estimates for the previous periods.

The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

COHERENCE

The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to August 1981 the AWE series was based primarily on information from payroll tax returns.

Data collection methodology has been improved over time, including survey definitions and sample design. Seasonally adjusted estimates were introduced in 1983 and trend estimates were introduced in 1993.

The AWE survey uses Australian standard classifications to facilitate data comparability across statistical series. From the August 2009 issue of the AWE publication, data is presented using

the 2006 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC). The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

Industry data from August 2009 is only available on an ANZSIC 2006 basis. Published industry series were backcast and data from August 1994 to May 2009 are available on the ABS website on the basis of both the 2006 edition and the previous 1993 edition of ANZSIC.

The ABS conducts a number of sample surveys of businesses which collect information about wages and salaries. One of these, the Wage Price Index, is designed to measure the change over time in the price of wages and salaries. Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index as the two series have different purposes and concepts and use different sample selection and estimation methodologies. For further information on comparability between AWE and WPI, refer to the feature article *Average Weekly Earnings and Wage Price Index - What do they measure?* published in the May 2014 AWE issue.

INTERPRETABILITY

Average weekly earnings statistics represent average gross earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Changes in the averages may be affected not only by changes in the level of earnings of employees, but also by changes in the overall composition of the wage and salary earner segment of the labour force.

There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; variations in the distribution of employment between industries; and variations in the proportion of male and female employees. Such effects may apply differently within different states and territories, and over time.

AWE statistics closely follow the International Labour Organisation's concept of 'Statistics of average earnings'. The data is collected in respect of a typical week and, therefore, may not reflect events such as Christmas trading. Further, the data excludes irregular and infrequent payments, such as annual bonuses. For these reasons, caution is advised if using AWE to derive annualised average earnings.

Average Weekly Earnings, Australia (cat. no. 6302.0) contains Explanatory Notes, a Glossary and a Technical Note which provide further information about data sources, terminology and other technical aspects of the series.

ACCESSIBILITY

Average Weekly Earnings, Australia (cat. no. 6302.0) is available electronically from the ABS website and includes downloadable Excel data files for time series data.

Sampling Error (Technical Note)

TECHNICAL NOTE SAMPLING ERROR

RELIABILITY OF ESTIMATES

1 As the estimates in this publication are based on information relating to a sample of employers, rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all employers. This difference, called **sampling error**, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents or in processing by the ABS. Such inaccuracy is referred to as **non-sampling error** and may occur in any enumeration whether it be a full count or a sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

2 The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the **standard error** which indicates the degree to which an estimate may vary from the value which would have been obtained from a full enumeration (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors are provided in tables 3,6,9,10 and 13 to 17.

3 An example of the use of a standard error is as follows: if the estimated average earnings were \$1,100.00 with a standard error of \$7.00, then there would be about two chances in three that a full enumeration would have given an estimate in the range \$1,093.00 to \$1,107.00 and about nineteen chances in twenty that it would be in the range \$1,086.00 to \$1,114.00.

4 Another measure of the sampling error is the **relative standard error**, which is obtained by expressing the standard error as a percentage of the estimate.